

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

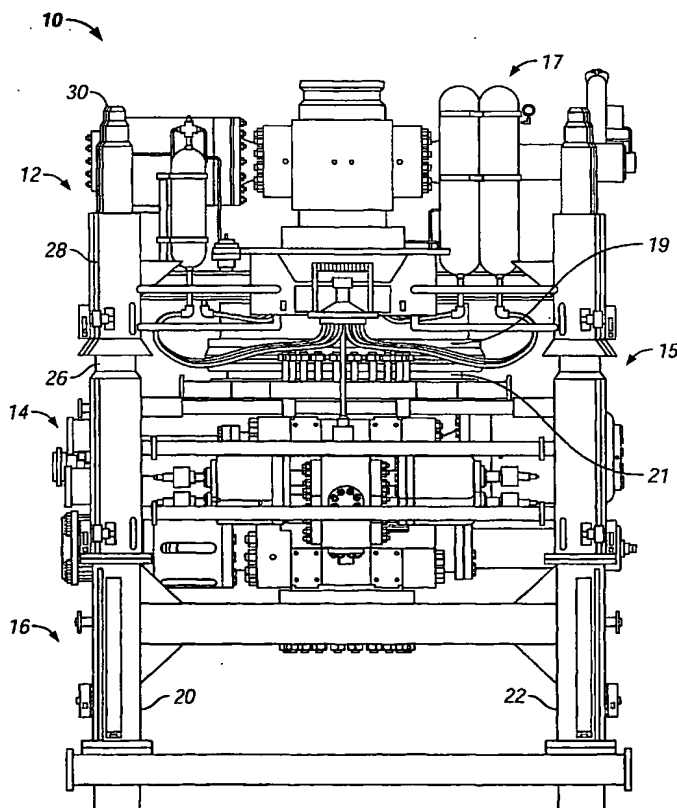
PCT

(10) International Publication Number
WO 2004/113158 A2

- (51) International Patent Classification⁷: **B63C**
- (21) International Application Number:
PCT/US2004/018981
- (22) International Filing Date: 16 June 2004 (16.06.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/478,988 17 June 2003 (17.06.2003) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 09/992,220 (CIP)
Filed on 6 November 2001 (06.11.2001)
- (71) Applicant (for all designated States except US): **WORLD-WIDE OILFIELD MACHINE, INC.** [US/US]; 11809 Canemont, Houston, Texas 77035 (US).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **SUNDARARAJAN, Alagarsamy** [US/US]; 22002 Castlewind Circle, Katy, Texas 77450 (US). **MCCREADIE, Tom** [US/US]; 11809 Canemont, Houston, Texas 77035 (US).
- (74) Agent: **NASH, Kenneth, L.**; Law Office of Kenneth L. Nash, P. O. Box 680106, Houston, Texas 77268-0106 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: **LIGHTWEIGHT AND COMPACT SUBSEA INTERVENTION PACKAGE AND METHOD**



(57) Abstract: The present invention discloses apparatus and methods for a lightweight subsea intervention package that may be installed using vessels with a smaller lifting capacity than semi-submersible platforms so that the subsea intervention package can be transported, installed, and removed from a subsea well in less time and with less cost. In one embodiment, the present invention comprises a lower riser package for controlling the subsea well which utilizes two hydraulically activated gate valves. An emergency disconnect package is secured to the lower riser package utilizing a disconnect mechanism. The emergency disconnect package is operable to seal the bottom of a riser if the disconnect mechanism is activated to thereby minimize environmental leakage of fluid from the riser.



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*